Maths Curriculum

|  |  |  |
| --- | --- | --- |
| Year 1 | Geometry - position and direction | Describe position direction and movement including whole half quarter and three-quarter turns |
| Year 1 | Geometry - properties of shapes | Recognises and names common 2-D and 3-D shapes including: |
| Year 1 | Geometry - properties of shapes | 2-D shapes e.g. rectangles (including squares) circles and triangles |
| Year 1 | Geometry - properties of shapes | 3-D shapes e.g. cuboids (including cubes) pyramids and spheres |
| Year 1 | Measurement | Compare describe and solve practical problems for: |
| Year 1 | Measurement | Lengths and heights e.g. long/short longer/shorter tall/short double/half |
| Year 1 | Measurement | Mass/weight e.g. heavy/light heavier than lighter than |
| Year 1 | Measurement | Capacity and volume e.g. full/empty more than less than half half full quarter |
| Year 1 | Measurement | Time e.g. quicker slower earlier later |
| Year 1 | Measurement | Measure and begin to record the following: |
| Year 1 | Measurement | Lengths and heights |
| Year 1 | Measurement | Mass/weight |
| Year 1 | Measurement | Capacity and volume |
| Year 1 | Measurement | Time (hours minutes seconds) |
| Year 1 | Measurement | Recognise and know the value of different denominations of coins and notes |
| Year 1 | Measurement | Sequence events in chronological order using language [for example before and after next first today yesterday tomorrow morning afternoon and evening] |
| Year 1 | Measurement | Recognise and use language relating to dates including days of the week weeks months and years |
| Year 1 | Measurement | Tells the time to the hour and half past the hour and draw the hands on a clock face to show these times |
| Year 1 | Number - addition and subtraction | Read write and interpret mathematical statements involving addition (+) subtraction (−) and equals (=) signs |
| Year 1 | Number - addition and subtraction | Represent and use number bonds and related subtraction facts within 20 |
| Year 1 | Number - addition and subtraction | Add and subtract one-digit and two-digit numbers to 20 including 0 |
| Year 1 | Number - addition and subtraction | Solve one-step problems that involve addition and subtraction using concrete objects and pictorial representations and missing number problems such as 7 = ? − 9 |
| Year 1 | Number - fractions | Recognises finds and names a half as one of two equal parts of an object shape or quantity |
| Year 1 | Number - fractions | Recognise find and name a quarter as 1 of 4 equal parts of an object shape or quantity |
| Year 1 | Number - multiplication and division | Solve one-step problems involving multiplication and division by calculating the answer using concrete objects pictorial representations and arrays with the support of the teacher |
| Year 1 | Number - number and place value | Count to and across 100 forwards and backwards beginning with 0 or 1 or from any given number |
| Year 1 | Number - number and place value | Count read and write numbers to 100 in numerals; count in multiples of twos fives and tens |
| Year 1 | Number - number and place value | Given a number to 100 identifies 1 more and 1 less |
| Year 1 | Number - number and place value | Identify and represent numbers using objects and pictorial representations including the number line and use the language of: equal to more than less than (fewer) most least |
| Year 1 | Number - number and place value | Read and write numbers from 1 to 20 in numerals and words |
| Year 2 | Geometry - position and direction | Order and arrange combinations of mathematical objects in patterns and sequences |
| Year 2 | Geometry - position and direction | Uses mathematical vocabulary to describe position direction and movement including movement in a straight line and distinguishing between rotation as a turn and in terms of right angles for quarter half and three-quarter turns (clockwise and anti-clockwise) |
| Year 2 | Geometry - properties of shapes | Identify and describe the properties of 2-D shapes including the number of sides and line symmetry in a vertical line (using these features to compare shapes equals greater depth) |
| Year 2 | Geometry - properties of shapes | Identify and describe the properties of 3-D shapes including the number of edges vertices and faces (using these features to compare shapes equals greater depth) |
| Year 2 | Geometry - properties of shapes | Identify 2-D shapes on the surface of 3-D shapes [for example a circle on a cylinder and a triangle on a pyramid] |
| Year 2 | Geometry - properties of shapes | Compares and sorts common 2-D and 3-D shapes and everyday objects |
| Year 2 | Measurement | Choose and use appropriate standard units to estimate and measure length/height in any direction (m/cm); mass (kg/g); temperature (°c); capacity (litres/ml) to the nearest appropriate unit using rulers scales thermometers and measuring vessels |
| Year 2 | Measurement | Compare and order lengths mass volume/capacity and record the results using > < and = |
| Year 2 | Measurement | Recognise and use symbols for pounds (£) and pence (p); combine amounts to make a particular value |
| Year 2 | Measurement | Find different combinations of coins that equal the same amounts of money |
| Year 2 | Measurement | Solves simple problems in a practical context involving addition and subtraction of money of the same unit including giving change |
| Year 2 | Measurement | Compare and sequence intervals of time |
| Year 2 | Measurement | Tell and write the time to 15 minutes including quarter past/to the hour and draw the hands on a clock face to show these times. (To 5 mins would show greater depth) |
| Year 2 | Measurement | Know the number of minutes in an hour and the number of hours in a day |
| Year 2 | Measurement | Use different coins to make the same amount |
| Year 2 | Measurement | Read Scales in 1s 2s 5s and 10s in a practical situation (Reading between indicated points is working at greater depth) |
| Year 2 | Number - addition and subtraction | Solves problems with addition and subtraction by: |
| Year 2 | Number - addition and subtraction | Using concrete objects and pictorial representations including those involving numbers quantities and measures |
| Year 2 | Number - addition and subtraction | Applying their increasing knowledge of mental and written methods: (Showing reasoning about the use of addition and subrraction e.g. the sum of 3 odd numbers will be odd is working at greater depth) |
| Year 2 | Number - addition and subtraction | Recalls and uses addition and subtraction facts to 20 and 100: (Where re-grouping is needed indicates greater depth) |
| Year 2 | Number - addition and subtraction | Fluently up to 20. |
| Year 2 | Number - addition and subtraction | Add and subtract numbers using concrete objects pictorial representations and mentally including: |
| Year 2 | Number - addition and subtraction | A two-digit number and 1s |
| Year 2 | Number - addition and subtraction | A two-digit number and 10s |
| Year 2 | Number - addition and subtraction | 2 two-digit numbers |
| Year 2 | Number - addition and subtraction | Adding 3 one-digit numbers |
| Year 2 | Number - addition and subtraction | Show that addition of 2 numbers can be done in any order (commutative) and subtraction of 1 number from another cannot |
| Year 2 | Number - addition and subtraction | Recognise and use the inverse relationship between addition and subtraction and use this to check calculations and solve missing number problems |
| Year 2 | Number - fractions | Recognises find name and write fractions ⅓ ¼ 2/4 and ¾ of a length shape set of objects or quantity |
| Year 2 | Number - fractions | Write simple fractions for example of ½ of 6 = 3 and recognise the equivalence of 2/4 and ½ (finding unitary fractions [not 1/2] of amounts is working at greater depth) |
| Year 2 | Number - multiplication and division | Recalls and use multiplication and division facts for the two five and 10 multiplication tables including recognising odd and even numbers (using known facts to derive others is working at greater depth) |
| Year 2 | Number - multiplication and division | Calculate mathematical statements for multiplication and division within the multiplication tables and write them using the multiplication (x) division (÷) and equals (=) signs |
| Year 2 | Number - multiplication and division | Show that multiplication of 2 numbers can be done in any order (commutative) and division of 1 number by another cannot (ability to indicate remainders shows greater depth) |
| Year 2 | Number - multiplication and division | Solves problems involving multiplication and division using materials arrays repeated addition mental methods and multiplication and division facts including problems in contexts. (recognising that repeated addition can be rewritten as multiplication is working at greater depth) |
| Year 2 | Number - number and place value | Count in steps of two three and five from 0 and in 10s from any number forward and backward |
| Year 2 | Number - number and place value | Recognise the place value of each digit in a two-digit number (10s 1s) |
| Year 2 | Number - number and place value | Identify represent and estimate numbers using different representations including the number line |
| Year 2 | Number - number and place value | Compares and orders numbers from 0 up to 100 |
| Year 2 | Number - number and place value | Uses < > and = signs correctly |
| Year 2 | Number - number and place value | Read and write numbers to at least 100 in numerals and in words with numerals correctly formed |
| Year 2 | Number - number and place value | Uses place value and number facts to solve problems |
| Year 2 | Statistics | Interpret and construct simple pictograms tally charts block diagrams and tables |
| Year 2 | Statistics | Ask and answer simple questions by counting the number of objects in each category and sorting the categories by quantity |
| Year 2 | Statistics | Asks and answers questions about totalling and comparing categorical data |
| Year 3 | Algebra | Solve missing number problems in simple number sentences. |
| Year 3 | Geometry - properties of shapes | Draw 2-D shapes and make 3-D shapes using modelling materials; recognise 3-d shapes in different orientations and describe them |
| Year 3 | Geometry - properties of shapes | Recognise angles as a property of shape or a description of a turn |
| Year 3 | Geometry - properties of shapes | Identify horizontal and vertical lines and pairs of perpendicular and parallel lines |
| Year 3 | Measurement | Measures compare adds and subtracts lengths (m/cm/mm); mass (kg/g); volume/capacity (l/ml) |
| Year 3 | Measurement | Measure the perimeter of simple 2-D shapes |
| Year 3 | Measurement | Adds and subtracts amounts of money to give change using both £ and p in practical contexts |
| Year 3 | Measurement | Tells and writes the time from an analogue clock including using roman numerals from I to XII and 12-hour and 24-hour clocks |
| Year 3 | Measurement | Estimate and read time with increasing accuracy to the nearest minute; record and compare time in terms of seconds minutes and hours; use vocabulary such as o’clock am/pm morning afternoon noon and midnight |
| Year 3 | Measurement | Know the number of seconds in a minute and the number of days in each month year and leap year |
| Year 3 | Measurement | Compare durations of events [for example to calculate the time taken by particular events or tasks] |
| Year 3 | Measurement | Identifies right angles recognises that two right angles make a half-turn three make three quarters of a turn and four a complete turn; identifies whether angles are greater than or less than a right angle |
| Year 3 | Number - addition and subtraction | Add and subtract numbers mentally including: |
| Year 3 | Number - addition and subtraction | A three-digit number and ones |
| Year 3 | Number - addition and subtraction | A three-digit number and tens |
| Year 3 | Number - addition and subtraction | A three-digit number and hundreds |
| Year 3 | Number - addition and subtraction | Add and subtract numbers with up to 3 digits using formal written methods of columnar addition and subtraction |
| Year 3 | Number - addition and subtraction | Estimate the answer to a calculation and use inverse operations to check answers |
| Year 3 | Number - addition and subtraction | Solve problems including missing number problems using number facts place value and more complex addition and subtraction |
| Year 3 | Number - fractions | Counts up and down in tenths; recognise that tenths arise from dividing an object into 10 equal parts and in dividing one-digit numbers or quantities by 10 |
| Year 3 | Number - fractions | Recognises find and write fractions of a discrete set of objects: unit fractions and non-unit fractions with small denominators |
| Year 3 | Number - fractions | Recognise and use fractions as numbers: unit fractions and non-unit fractions with small denominators |
| Year 3 | Number - fractions | Recognises and shows using diagrams equivalent fractions with small denominators |
| Year 3 | Number - fractions | Add and subtract fractions with the same denominator within one whole [for example 5/7 + 1/7 = 6/7] |
| Year 3 | Number - fractions | Compare and order unit fractions and fractions with the same denominators |
| Year 3 | Number - fractions | Solve problems that involve all of the above |
| Year 3 | Number - multiplication and division | Recalls and uses multiplication and division facts for the multiplication tables: |
| Year 3 | Number - multiplication and division | Three; |
| Year 3 | Number - multiplication and division | Four; and |
| Year 3 | Number - multiplication and division | Eight. |
| Year 3 | Number - multiplication and division | Writes and calculates mathematical statements for multiplication and division using the multiplication tables that they know including for two-digit numbers times one-digit numbers using mental and progressing to formal written methods |
| Year 3 | Number - multiplication and division | Solve problems including missing number problems involving multiplication and division including positive integer scaling problems and correspondence problems in which n objects are connected to m objects |
| Year 3 | Number - number and place value | Can work out if a given number is greater or less than 10 or 100 |
| Year 3 | Number - number and place value | Recognises the place value of each digit in a 3-digit number (hundreds tens and ones) |
| Year 3 | Number - number and place value | Compare and order numbers up to 1 000 |
| Year 3 | Number - number and place value | Identify represent and estimate numbers using different representations |
| Year 3 | Number - number and place value | Read and write numbers up to 1 000 in numerals and in words |
| Year 3 | Number - number and place value | Solves number problems and practical problems involving these ideas |
| Year 3 | Statistics | Interprets and presents data using bar charts pictograms and tables |
| Year 3 | Statistics | Solve one-step and two-step questions [for example ‘How many more?’ and ‘How many fewer?’] using information presented in scaled bar charts and pictograms and tables |
| Year 4 | Algebra | Solve missing number problems in column addition and subraction. |
| Year 4 | Geometry - position and direction | Describe positions on a 2-D grid as coordinates in the first quadrant |
| Year 4 | Geometry - position and direction | Describe movements between positions as translations of a given unit to the left/right and up/down |
| Year 4 | Geometry - position and direction | Plots specified points and draw sides to complete a given polygon |
| Year 4 | Geometry - properties of shapes | Compares and classifies geometric shapes including quadrilaterals and triangles based on their properties and sizes |
| Year 4 | Geometry - properties of shapes | Identify acute and obtuse angles and compare and order angles up to 2 right angles by size |
| Year 4 | Geometry - properties of shapes | Identify lines of symmetry in two dimensional shapes presented in different orientations |
| Year 4 | Geometry - properties of shapes | Complete a simple symmetric figure with respect to a specific line of symmetry |
| Year 4 | Measurement | Converts between different units of measure e.g. kilometre to metre; hour to minute |
| Year 4 | Measurement | Measure and calculate the perimeter of a rectilinear figure (including squares) in centimetres and metres |
| Year 4 | Measurement | Find the area of rectilinear shapes by counting squares |
| Year 4 | Measurement | Estimate compare and calculate different measures including money in pounds and pence |
| Year 4 | Measurement | Read write and convert time between analogue and digital 12- and 24-hour clocks |
| Year 4 | Measurement | Solve problems involving converting from hours to minutes minutes to seconds years to months weeks to days |
| Year 4 | Number - addition and subtraction | Add and subtract numbers with up to 4 digits using the formal written methods of columnar addition and subtraction where appropriate |
| Year 4 | Number - addition and subtraction | Estimate and use inverse operations to check answers to a calculation |
| Year 4 | Number - addition and subtraction | Solves addition and subtraction two-step problems in context deciding which operations and methods to use and why |
| Year 4 | Number - fractions | Recognises and shows using diagrams families of common equivalent fractions |
| Year 4 | Number - fractions | Counts up and down in hundredths; recognise that hundredths arise when dividing an object by 100 and dividing tenths by 10 |
| Year 4 | Number - fractions | Solve problems involving increasingly harder fractions to calculate quantities and fractions to divide quantities including non-unit fractions where the answer is a whole number |
| Year 4 | Number - fractions | Add and subtract fractions with the same denominator |
| Year 4 | Number - fractions | Recognise and write decimal equivalents of any number of tenths or hundreds |
| Year 4 | Number - fractions | Recognise and write decimal equivalents to ¼ ½ and ¾ |
| Year 4 | Number - fractions | Find the effect of dividing a one- or two-digit number by 10 and 100 identifying the value of the digits in the answer as ones tenths and hundredths |
| Year 4 | Number - fractions | Rounds decimals with one decimal place to the nearest whole number |
| Year 4 | Number - fractions | Compare numbers with the same number of decimal places up to 2 decimal places |
| Year 4 | Number - fractions | Solves simple measure and money problems involving fractions and decimals to two decimal places |
| Year 4 | Number - multiplication and division | Recalls multiplication and division facts for multiplication tables up to 12 x 12 |
| Year 4 | Number - multiplication and division | Use place value known and derived facts to multiply and divide mentally including: multiplying by 0 and 1; dividing by 1; multiplying together 3 numbers |
| Year 4 | Number - multiplication and division | Recognise and use factor pairs and commutativity in mental calculations |
| Year 4 | Number - multiplication and division | Multiply two-digit and three-digit numbers by a one-digit number using formal written layout |
| Year 4 | Number - multiplication and division | Solve problems involving multiplying and adding including using the distributive law to multiply two-digit numbers by 1 digit integer scaling problems and harder correspondence problems such as n objects are connected to m objects |
| Year 4 | Number - number and place value | Count in multiples of six seven nine 25 and 1 000 |
| Year 4 | Number - number and place value | Find 1 000 more or less than a given number |
| Year 4 | Number - number and place value | Counts backwards through 0 to include negative numbers |
| Year 4 | Number - number and place value | Recognise the place value of each digit in a four-digit number (1 000s 100s 10s and 1s) |
| Year 4 | Number - number and place value | Orders and compares numbers beyond 1 000 |
| Year 4 | Number - number and place value | Identify represent and estimate numbers using different representations |
| Year 4 | Number - number and place value | Rounds any number to the nearest 10 100 or 1 000 |
| Year 4 | Number - number and place value | Use rounded numbers to produce estimates and to check written calculations |
| Year 4 | Number - number and place value | Solve number and practical problems that involve all of the above and with increasingly large positive numbers |
| Year 4 | Number - number and place value | Read roman numerals to 100 (I to C) and know that over time the numeral system changed to include the concept of 0 and place value |
| Year 4 | Statistics | Interpret and present discrete and continuous data using appropriate graphical methods including bar charts and time graphs |
| Year 4 | Statistics | Solves comparison sum and difference problems using information presented in bar charts pictograms tables and other graphs |
| Year 5 | Algebra | Solve missing number problems in written addition subtraction and multiplication. |
| Year 5 | Geometry - position and direction | Identify describe and represent the position of a shape following a reflection or translation using the appropriate language and know that the shape has not changed |
| Year 5 | Geometry - properties of shapes | Identify 3-D shapes including cubes and other cuboids from 2-D representations |
| Year 5 | Geometry - properties of shapes | Know angles are measured in degrees: estimate and compare acute obtuse and reflex angles |
| Year 5 | Geometry - properties of shapes | Draws given angles and measure them in degrees (°) |
| Year 5 | Geometry - properties of shapes | Identify: |
| Year 5 | Geometry - properties of shapes | Angles at a point and 1 whole turn (total 360°) |
| Year 5 | Geometry - properties of shapes | Angles at a point on a straight line and half a turn (total 180°) |
| Year 5 | Geometry - properties of shapes | Other multiples of 90° |
| Year 5 | Geometry - properties of shapes | Use the properties of rectangles to deduce related facts and find missing lengths and angles |
| Year 5 | Geometry - properties of shapes | Distinguishes between regular and irregular polygons based on reasoning about equal sides and angles |
| Year 5 | Measurement | Converts between different units of metric measure eg kilometre and metre; centimetre and metre; centimetre and millimetre; gram and kilogram; litre and millilitre |
| Year 5 | Measurement | Understand and use approximate equivalences between metric units and common imperial units such as inches pounds and pints |
| Year 5 | Measurement | Measures and calculates the perimeter of composite rectilinear shapes in centimetres and metres |
| Year 5 | Measurement | Calculate and compare the area of rectangles (including squares) including using standard units square centimetres (cm²) and square metres (m²) and estimate the area of irregular shapes |
| Year 5 | Measurement | Calculates and compares the area of rectangles (including squares) including using standard units square centimetres (cm²) and square metres (m²) |
| Year 5 | Measurement | Estimate volume [for example using 1 cm³ blocks to build cuboids (including cubes)] and capacity [for example using water] |
| Year 5 | Measurement | Solve problems involving converting between units of time |
| Year 5 | Measurement | Use all four operations to solve problems involving measure [for example length mass volume money] using decimal notation including scaling |
| Year 5 | Number - addition and subtraction | Adds and subtracts whole numbers with more than 4 digits including using formal written methods (columnar addition and subtraction) |
| Year 5 | Number - addition and subtraction | Adds and subtracts numbers mentally with increasingly large numbers (eg 12 462 - 2 300 = 10 162) |
| Year 5 | Number - addition and subtraction | Use rounding to check answers to calculations and determine in the context of a problem levels of accuracy |
| Year 5 | Number - addition and subtraction | Solve addition and subtraction multi-step problems in contexts deciding which operations and methods to use and why |
| Year 5 | Number - fractions | Compares and orders fractions whose denominators are all multiples of the same number |
| Year 5 | Number - fractions | Identify name and write equivalent fractions of a given fraction represented visually including tenths and hundredths |
| Year 5 | Number - fractions | Recognise mixed numbers and improper fractions and convert from one form to the other and write mathematical statements > 1 as a mixed number [for example ⅖ + ⅘ = 6/5 = 1⅕ ] |
| Year 5 | Number - fractions | Add and subtract fractions with the same denominator and denominators that are multiples of the same number |
| Year 5 | Number - fractions | Multiply proper fractions and mixed numbers by whole numbers supported by materials and diagrams |
| Year 5 | Number - fractions | Read and write decimal numbers as fractions e.g. 0.71 = 71/100 |
| Year 5 | Number - fractions | Recognise and use thousandths and relate them to tenths hundredths and decimal equivalents |
| Year 5 | Number - fractions | Round decimals with 2 decimal places to the nearest whole number and to 1 decimal place |
| Year 5 | Number - fractions | Reads writes orders and compares numbers with up to 3 decimal places |
| Year 5 | Number - fractions | Solve problems involving number up to 3 decimal places |
| Year 5 | Number - fractions | Recognise the per cent symbol (%) and understand that per cent relates to ‘number of parts per 100’ and write percentages as a fraction with denominator 100 and as a decimal fraction |
| Year 5 | Number - fractions | Solves problems which require knowing percentage and decimal equivalents of ½ ¼ ⅕ ⅖ ⅘ and those fractions with a denominator of a multiple of 10 or 25 |
| Year 5 | Number - multiplication and division | Identifies multiples and factors including finding all factor pairs of a number and common factors of two numbers |
| Year 5 | Number - multiplication and division | Know and use the vocabulary of prime numbers prime factors and composite (non-prime) numbers |
| Year 5 | Number - multiplication and division | Establish whether a number up to 100 is prime and recall prime numbers up to 19 |
| Year 5 | Number - multiplication and division | Multiply numbers up to 4 digits by a one- or two-digit number using a formal written method including long multiplication for two-digit numbers |
| Year 5 | Number - multiplication and division | Multiply and divide numbers mentally drawing upon known facts |
| Year 5 | Number - multiplication and division | Divide numbers up to 4 digits by a one-digit number using the formal written method of short division and interpret remainders appropriately for the context |
| Year 5 | Number - multiplication and division | Multiply and divide whole numbers and those involving decimals by 10 100 and 1 000 |
| Year 5 | Number - multiplication and division | Recognise and use square numbers and cube numbers and the notation for squared (²) and cubed (³) |
| Year 5 | Number - multiplication and division | Solves problems involving multiplication and division including using a knowledge of factors and multiples squares and cubes |
| Year 5 | Number - multiplication and division | Solve problems involving addition subtraction multiplication and division and a combination of these including understanding the meaning of the equals sign |
| Year 5 | Number - multiplication and division | Solves problems involving multiplication and division including scaling by simple fractions and problems involving simple rates |
| Year 5 | Number - number and place value | Reads writes orders and compares numbers to at least 1 000 000 and determine the value of each digit |
| Year 5 | Number - number and place value | Count forwards or backwards in steps of powers of 10 for any given number up to 1 000 000 |
| Year 5 | Number - number and place value | Interprets negative numbers in context count forwards and backwards with positive and negative whole numbers including through zero |
| Year 5 | Number - number and place value | Round any number up to 1 000 000 to the nearest 10 100 1 000 10 000 and 100 000 |
| Year 5 | Number - number and place value | Solve number problems and practical problems that involve all of the above |
| Year 5 | Number - number and place value | Read Roman numerals to 1 000 (M) and recognise years written in Roman numerals |
| Year 5 | Statistics | Solve comparison sum and difference problems using information presented in a line graph |
| Year 5 | Statistics | Completes reads and interprets information in tables including timetables |
| Year 6 | Algebra | Uses simple formulae |
| Year 6 | Algebra | Generate and describe linear number sequences |
| Year 6 | Algebra | Express missing number problems algebraically |
| Year 6 | Algebra | Find pairs of numbers that satisfy an equation with 2 unknowns |
| Year 6 | Algebra | Enumerate possibilities of combinations of 2 variables |
| Year 6 | Geometry - position and direction | Describe positions on the full coordinate grid (all 4 quadrants) |
| Year 6 | Geometry - position and direction | Draws and translate simple shapes on the coordinate plane and reflect them in the axes |
| Year 6 | Geometry - properties of shapes | Draw 2-D shapes using given dimensions and angles |
| Year 6 | Geometry - properties of shapes | Recognise describe and build simple 3-D shapes including making nets |
| Year 6 | Geometry - properties of shapes | Compares and classifies geometric shapes based on their properties and sizes and find unknown angles in any triangles quadrilaterals and regular polygons |
| Year 6 | Geometry - properties of shapes | Illustrate and name parts of circles including radius diameter and circumference and know that the diameter is twice the radius |
| Year 6 | Geometry - properties of shapes | Recognise angles where they meet at a point are on a straight line or are vertically opposite and find missing angles |
| Year 6 | Measurement | Solve problems involving the calculation and conversion of units of measure using decimal notation up to 3 decimal places where appropriate |
| Year 6 | Measurement | Uses reads writes and converts between standard units converting measurements of length mass volume and time from a smaller unit of measure to a larger unit and vice versa using decimal notation to up to three decimal places |
| Year 6 | Measurement | Convert between miles and kilometres |
| Year 6 | Measurement | Recognise that shapes with the same areas can have different perimeters and vice versa |
| Year 6 | Measurement | Recognise when it is possible to use formulae for area and volume of shapes |
| Year 6 | Measurement | Calculate the area of parallelograms and triangles |
| Year 6 | Measurement | Calculate estimate and compare volume of cubes and cuboids using standard units including cubic centimetres (cm³) and cubic metres (m³) and extending to other units [for example mm³ and km³] |
| Year 6 | Number - addition subtraction multiplication and division | Multiplies multi-digit numbers up to four digits by a two-digit whole number using the formal written method of long multiplication |
| Year 6 | Number - addition subtraction multiplication and division | Divide numbers up to 4 digits by a two-digit whole number using the formal written method of long division and interpret remainders as whole number remainders fractions or by rounding as appropriate for the context |
| Year 6 | Number - addition subtraction multiplication and division | Divides numbers up to four digits by a two-digit number using the formal written method of short division where appropriate interpreting remainders according to the context |
| Year 6 | Number - addition subtraction multiplication and division | Perform mental calculations including with mixed operations and large numbers |
| Year 6 | Number - addition subtraction multiplication and division | Identify common factors common multiples and prime numbers |
| Year 6 | Number - addition subtraction multiplication and division | Use their knowledge of the order of operations to carry out calculations involving the 4 operations |
| Year 6 | Number - addition subtraction multiplication and division | Solves addition and subtraction multi-step problems in contexts deciding which operations and methods to use and why |
| Year 6 | Number - addition subtraction multiplication and division | Solve problems involving addition subtraction multiplication and division |
| Year 6 | Number - addition subtraction multiplication and division | Uses estimation to check answers to calculations and determines in the context of a problem an appropriate degree of accuracy |
| Year 6 | Number - fractions | Use common factors to simplify fractions; use common multiples to express fractions in the same denomination |
| Year 6 | Number - fractions | Compare and order fractions including fractions >1 |
| Year 6 | Number - fractions | Add and subtract fractions with different denominators and mixed numbers using the concept of equivalent fractions |
| Year 6 | Number - fractions | Multiply simple pairs of proper fractions writing the answer in its simplest form [for example ¼ x ½ = ⅛] |
| Year 6 | Number - fractions | Divide proper fractions by whole numbers [for example ⅓ ÷ 2 = ⅙ ] |
| Year 6 | Number - fractions | Associate a fraction with division and calculate decimal fraction equivalents [for example 0.375] for a simple fraction [for example ⅜] |
| Year 6 | Number - fractions | Identify the value of each digit in numbers given to 3 decimal places and multiply and divide numbers by 10 100 and 1 000 giving answers up to 3 decimal places |
| Year 6 | Number - fractions | Multiply one-digit numbers with up to 2 decimal places by whole numbers |
| Year 6 | Number - fractions | Uses written division methods in cases where the answer has up to two decimal places |
| Year 6 | Number - fractions | Solves problems which require answers to be rounded to specified degrees of accuracy |
| Year 6 | Number - fractions | Recalls and uses equivalences between simple fractions decimals and percentages including in different contexts |
| Year 6 | Number - number and place value | Read write order and compare numbers up to 10 000 000 and determine the value of each digit |
| Year 6 | Number - number and place value | Rounds any whole number to a required degree of accuracy |
| Year 6 | Number - number and place value | Uses negative numbers in context and calculate intervals across zero |
| Year 6 | Number - number and place value | Solve number and practical problems that involve all of the above |
| Year 6 | Ratio and proportion | Solve problems involving the relative sizes of 2 quantities where missing values can be found by using integer multiplication and division facts |
| Year 6 | Ratio and proportion | Solve problems involving the calculation of percentages eg of measures and such as 15% of 360 and the use of percentages for comparison |
| Year 6 | Ratio and proportion | Solve problems involving similar shapes where the scale factor is known or can be found |
| Year 6 | Ratio and proportion | Solves problems involving unequal sharing and grouping using knowledge of fractions and multiples |
| Year 6 | Statistics | Interpret and construct pie charts and line graphs and use these to solve problems |
| Year 6 | Statistics | Calculates and interprets the mean as an average |